

REMARKS

Reconsideration and withdrawal of the rejections set forth in the Office Action are respectfully requested in view of this amendment and the following reasons. By this amendment, claim 1 has been amended. Accordingly, claims 1, 2, and 4 are pending in this application.

Claim 1 has been amended to recite the present subject matter more clearly. Support for these features may be found at least in claims 3 and 10 as originally filed, in paragraphs [0030], [0032], and [0036] of the present application as published, and in its Figs. 3 and 8. Thus, it is respectfully submitted that the above amendments introduce no new matter within the meaning of 35 U.S.C. §132.

For at least these reasons, entry of the present Amendment is therefore respectfully requested. Accordingly, Applicants request reconsideration and timely withdrawal of the pending rejections for the reasons discussed below.

Rejections Under 35 U.S.C. §102

Claims 1 and 2 stand rejected under 35 U.S.C. §102(b) as being allegedly anticipated by Park et al. (K.W. Park, K.S. Ahn, J.H. Choi, Y.C. Nah, Y.M. Kim, “Pt-WO_x electrode structure for thin-film fuel cells,” Applied Physics Letters 81, (2002) 907-909) (“Park”). Applicants respectfully traverse this rejection for at least the following reasons.

Applicants respectfully submit that the rejections of independent claim 1 must be withdrawn because the cited reference does not disclose, teach, or suggest all of the features of the claimed subject matter. “Anticipation requires the disclosure in a single prior art reference of

each element of the claim under consideration.” *W.L. Gore & Assocs. V. Garlock*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). Further, “when evaluating the scope of a claim, every limitation in the claim must be considered. U.S.P.T.O. personnel may not dissect a claimed invention into discrete elements and then evaluate the elements in isolation. Instead, the claim as a whole must be considered.” *U.S.P.T.O. Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility*, page 9, October 26, 2005. As the Federal Circuit stated, “[a]nticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim.” *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Col.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)).

In view of this framework, Applicants respectfully submit that Park fails to disclose every recited feature of claim 1. Specifically, claim 1, as amended, recites, *inter alia*:

wherein the metal oxide comprises a metal having an open structure and wherein the metal oxide is *selected from oxides of tantalum, silicon, titanium, and nickel* (Emphasis added)

Park does not disclose, teach, or suggest at least this feature. With respect to this feature, the Examiner states, in section 3, page 3, lines 1-8, that “[f]inally, the method disclosed by [Park] yields an amorphous metal oxide (amorphous, porous *tungsten* oxidative phase discussed in paragraph 4 and shown as the [‘]relative bright region[‘] in the TEM image of the electrode in Figure 1). [Park] further discloses that the counter electrode has a two-phase structure consisting

of *Pt metal* and a porous/open structure metal oxide (WO_x) such that it is a two phase structure composed of a nano-crystalline and an amorphous phase/non-layered structure (p.908, paragraph 1) as shown in Figure 1.” (Emphasis added). However, this teaching of Park does not anticipate the above-recited claim feature because the reference merely discloses an electrode including “*Pt metal*” and an amorphous metal oxide including “*tungsten*” while, according to the claimed subject matter, the metal oxide must be selected from *oxides of tantalum, silicon, titanium, and nickel*. Since Park discloses, teaches, or suggests none of these four metal oxides, the reference fails to disclose all of the claim features. Therefore, claim 1 is allowable over Park because the reference fails to disclose, teach, or suggest every recited claim feature.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. §102(b) rejection of claim 1. Claim 2 depends from claim 1 and is allowable for at least this reason. Since none of the other prior art of record discloses or suggests all the features of the claimed subject matter, Applicants respectfully submit that independent claim 1, and all the claims that depend therefrom, are allowable.

Rejections Under 35 U.S.C. §103

1. Claim 1 stands rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Prueanu et al. (S. Pruneanu, G. Mihailescu, E. Indrea, “Nanoporous Al_2O_3 membranes filled by platinum,” Semiconductor Conference 2000, CAS 2000 Proceedings, International 2, (2000) 475-478) (“Pruneanu”) in view of Park. Applicants respectfully traverse this rejection for at least the following reasons.

To establish an obviousness rejection under 35 U.S.C. § 103(a), four factual inquiries must be examined. The four factual inquiries include (a) determining the scope and contents of the prior art; (b) ascertaining the differences between the prior art and the claims in issue; (c) resolving the level of ordinary skill in the pertinent art; and (d) evaluating evidence of secondary consideration. *Graham v. John Deere*, 383 U.S. 1, 17-18 (1966). In view of these four factors, the analysis supporting a rejection under 35 U.S.C. 103(a) should be made explicit, and should “identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements” in the manner claimed. *KSR Int’l. Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741 (2007). Furthermore, even if the prior art may be combined, there must be a reasonable expectation of success, and the reference or references, when combined, must disclose or suggest all of the claim limitations. See *in re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Assuming *arguendo* that the references may be combined and a reasonable expectation of success exists, the combined references do not disclose or suggest all of the claim features.

As noted above with regard to the 35 U.S.C. §102(b) rejection, Park fails to disclose, teach, or suggest at least the above-recited feature of claim 1. In addition to this, Applicants respectfully submit that Pruneau also fails to disclose, teach, or suggest at least such feature. In the Office Action, section 5, page 4, lines 7-10, the Examiner indicates that “[t]he method involves depositing the counter electrode/ *Pt metal* inside nanopores of *Al₂O₃* electrochemically which creates nanocrystalline patches/nanoporous membranes/non-layered (p.476, paragraph 3) of Pt metal for the electrode.” (Emphasis added). On the basis of this indication, it is understood

that Pruneanu teaches merely an electrode including “Pt metal” and “Al₂O₃” but any of the metal oxide selected from *oxides of tantalum, silicon, titanium, and nickel*, as required by the presently claimed subject matter. Thus, it is submitted that Pruneanu also fails to disclose such claim feature.

Since neither Park nor Pruneanu discloses, teaches, or suggests such recited feature of claim 1, even if a skilled artisan accidentally combines the two references, the combined references still do not disclose, teach, or suggest every feature recited in claim 1. Therefore, Applicants respectfully submit that claim 1 is allowable over the references.

2. Claim 4 stands rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Park in view of Vink et al. (T.J. Vink, W. Walrave, J.L.C. Daams, P.C. Baarslag, J.E.A.M. van den Meerakker, “On the homogeneity of sputter-deposited ITO films Part 1. Stress and microstructure,” Thin Solid Films 266 (1995) 145-151) (“Vink”). Applicants respectfully traverse this rejection for at least the following reasons.

Applicants note that claim 4 depends from claim 1 and Vink fails to cure the deficiencies of Park noted above with regard to the claim 1 rejection. In other words, none of Park and Vink discloses, teaches, or suggests the metal oxide “selected from oxides of tantalum, silicon, titanium, and nickel.” Because neither Park nor Vink discloses, teaches, or suggests such recited feature, even the combined references do not teach or suggest every recited feature of claim 4. Thus, Applicants respectfully submit that claim 4 is allowable for at least this reason.

3. Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. §103(a) rejection of claim 1. Claim 4 depends from claim 1 and is allowable for at least this reason. Since none of the other prior art of record, whether taken alone or in any combination, discloses or suggests all the features of the claimed subject matter, Applicants respectfully submit that independent claim 1, and all the claims that depend therefrom, are allowable.

CONCLUSION

Applicants believe that a full and complete response has been made to the pending Office Action and respectfully submit that all of the stated grounds for rejection have been overcome or rendered moot. Accordingly, Applicants respectfully submit that all pending claims are allowable and that the application is in condition for allowance.

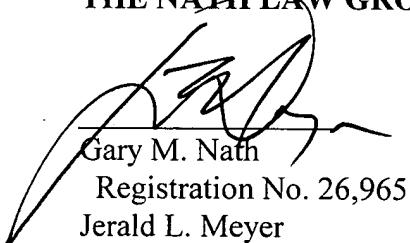
Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative at the number below to expedite prosecution.

Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully submitted,
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